

LETTERS

Helicopters and Tanks in 2020: Not an Either-Or Proposition

Dear Sir:

While I agree with MAJ Blumentritt, that Armor will continue to play a pivotal role in land warfare for the foreseeable future, I must take issue with much of his argument regarding helicopters on the battlefield (see Sep-Oct 98 issue). Although the capabilities of the (attack) helicopter are becoming more evident, they, like the tank, are only a part of the combined arms team and not an end to a means by themselves. However to, "...use helicopters as airpower assets..." would fundamentally nullify the combined arms team, by putting the division and corps aviation assets under the control of the air component commander.

If the joint force commander uses attack helicopters as "airpower," then by definition they will be apportioned by the joint force air component commander (JFACC) through the air tasking order process. Commanders will need to plan for and request their use 48-72 hours in advance. This is in no way responsive to the ground commander's requirements. The very reason that aviation is an element of the ground maneuver force is to allow them to operate within the tempo of the ground battle. Although Army Aviation operates "aircraft," they are operated in the ground scheme of maneuver. Missions are planned for and executed in the same manner as for any other member of the combined arms team.

His assertion that aviation cannot seize ground is correct, at face value. Attack helicopters are designed to attack the enemy, not hold ground. Attack and air cavalry assets provide the commander the ability to see the battlefield, and in concert with artillery set the conditions for decisive ground operations. In fact, every heavy division commander in Operation Desert Storm, at some point, used attack aviation forward of the ground elements of their divisions, to see the enemy and set the conditions for ground maneuver. Although not able to hold ground they can "dominate" terrain for a period of time. The 24th Infantry Division used Apache helicopters to deny the Republican Guard a route of retreat to the causeway after the 100 hours. In Bosnia, the attack helicopter has been used to force compliance with the Dayton Peace Accord. Few would argue that M1A1s would have played a pivotal role in the rescue of the Rangers in Mogadishu. However, I believe that if you ask those outstanding soldiers what kept the crowds from overwhelming them during the night, they would tell you the attack helicopters of Task Force 160 played a critical role. Likewise, the Pakistani and Malaysian armor force that fought its way to the Rangers was supported by Cobra helicopters of the 10th Mountain Division, sometimes flying below rooftop level and firing into second story windows. Aviation is not the panacea of the battlefield, but [helicopters] are far more than a component of airpower. Armor and Aviation must harness the same synergy that was

gained in the 1930s and World War II between armor and mechanized infantry, exploiting the mobility differential.

MAJ Blumentritt's claim that bad weather affects aviation's ability to operate is an oversimplification. In fact, weather affects all members of the combined arms team. During the AH-64D Longbow IOT&E, the weather precluded operations by the mechanized forces off of the road network, and the Longbow was the only maneuver system able to conduct normal operations. MAJ Blumentritt appears to have forgone talking with any Army aviators about our ability to operate in marginal weather conditions. In fact, both the AH-64 and UH-60 are capable of operating in up to moderate icing conditions. With the development of the fire control radar on the AH-64D, visibility requirements for attack operations will be reduced. To be sure, weather will still be a real factor in aviation operations, but less so than with fixed wing operations, not to mention UAVs.

Although "flying tanks" are still far from becoming a reality, I believe that MAJ Blumentritt's comments may go down with those made in 1914, by British General Haig, as to the capabilities of the "aeroplane" and its utility on the battlefield, or those of Air Force generals after World War II as to the capabilities of the helicopter. We must remember that many prominent Cavalry and Infantry generals had tremendous doubts about tanks, until the Wehrmacht made their utility overwhelmingly obvious.

In recent months, it has become popular to compare attack helicopters and armor as competitors for the same mission. They are not. They are complementary systems on the combined arms battlefield. Helicopters are not, nor will they be, the end of the combat arm of decision. Together, Armor and Aviation will take the fight to the enemy with the tempo that is the hallmark of maneuver warfare. As an element of airpower, apportioned by the JFACC, this cannot happen.

MAJ ALLEN L. HUBER
S3, 2-4 Aviation Regiment
4th Infantry Division (Mech)

At Least in the Near Future, Today's Scouts Will Use Bradleys & HMMWVs

Dear Sir:

On November 9, 1998, at the UDLP factory in York, Pa., a significant milestone in the history of the Armor Force took place and not a single official representative from Ft. Knox or Armor Branch was present. The M2A3 Infantry Bradley first production vehicle was delivered to the U.S. Army, and with it comes the M3A3 Cavalry Fighting Vehicle.

Whether anyone wants to admit this or not at Ft. Knox, the only new Future Scout and Cavalry Systems (FSCS) that most of the 19Ds in the Army today will ever see are the M3A3 Bradley and the Long Range Acquisition System (LRAS) HMMWV. It's time to take our

heads out of the sand and start figuring out how to best utilize the awesome capabilities of these systems. While it's nice to have a group working on the international FSCS program that may give some future generation of scouts a new system, we had better expend more energy on optimizing the new systems we are getting now. Armored, 24-hour-a-day, on-the-ground reconnaissance and economy of force operations are essential to the success of combined arms operations. Protesting we can't get the job done without FSCS is ludicrous.

Most do not even know that the new acquisition systems on these vehicles contain not only very high resolution second generation FLIRs but also daylight CCD TVs. These systems, coupled with the digital databus architectures of the vehicles, give us unprecedented reconnaissance capabilities. Absolutely no effort has been expended by the combat development community at Ft. Knox to influence the design or equipping of the M3A3 configuration vehicles beyond what every mechanized infantry squad will have in an M2A3 IFV. This is criminal.

No significant effort has been devoted to study or influence the design of the internal rear configuration of the Bradley M3A3. In the M2A3 Infantry configuration, there is a wonderful flat panel display where the dismount squad can look through either the gunner's sight, the commander's sight, the driver's thermal viewer, or see the digital command and control data available to the commander. Think of what could be done if we had put multiple displays and additional receiver radios in the M3A3 so that scouts in the back could look at all of these sensor outputs and the downlink data from Apache Longbow MTI radar and UAVs that may be operating in their area.

We are putting a very expensive mast-mounted LRAS system on a HMMWV that has virtually no protection. It could have been mounted in the right rear of the M3A3, eliminating a vehicle from the force and providing for even more sensor fusion on board the M3A3. When moving, the stabilized gunner's IBAS and commander's CIV would provide the primary target acquisition capabilities, and when stationary, the large aperture LRAS mast-mounted sensors would provide the extended range capabilities needed. What we have now is two half reconnaissance systems.

There are no good acoustical sensors in either ground system, yet the Field Artillery is procuring the BAT munition that has an excellent sensor array which could also have been mounted and integrated on the M3A3's mast. As a battalion commander, I bought Steiner 15x80 binoculars with internal compasses in them for my scouts. These binoculars and the new lightweight laser designators and pointers need to be on the BII of the M3A3.

We also need to look at the integration of some of the Land Warrior and dismounted LRAS technologies for our dismounted scouts so that they can stay electronically tethered to the M3A3 yet work in areas where vehicle exposure needs to be minimized.

From a purist standpoint, the M3A3 Bradley is a terrible scout vehicle. It's big, at 133 inches to the top of the CIV, and heavy, at 33.5 tons, but it's the best we're going to have for a long time. Let's make the best of it instead of crying about what we could have in 15 more years. We need to work on its visual, acoustic, and thermal signatures, and we need to get more sensors, radio receivers, and integration capability on board. These are all within the realm of the possible for product improvements and the budgets of today.

For those who think it's more important to expend all of our resources trying to get a new FSCS, I remind you that in the 1970s, the Armor leadership chose to ignore the M3 CFV development and upgrades, thinking a new scout was just around the corner. It's twenty years and one war later. It's time we faced reality and our responsibility to equip today's scouts with the best we can. Remember — better is the enemy of good enough.

CHRISTOPHER V. CARDINE
COL (Ret.), Armor/Cavalry

Thoughts on Battle Command Article From a Career Fire Supporter

Dear Sir:

The September-October 1998 issue of *ARMOR* contained the article "Battle Command Insights," by LTC James E. Zanol. This article included a section entitled "Lessons of Fires," which was breathtaking, absolutely stunning. I have been a 13F (Fire Support Specialist) for 17 years and have never seen a clearer explanation of the application of fire support at the brigade level. It should be memorized by every armor, infantry, combat aviation, and artillery officer.

During my time as a fire support sergeant, the soldiers I have learned the most from about fire support have been a couple of maneuver commanders at the company team and battalion level. This wasn't because they had special technical knowledge of any fire support means, but because they understood the most important battle command lesson: maneuver commanders are *solely* responsible for synchronizing their own combat power. They were excellent tacticians (not technicians) who understood that they needed every advantage, every shred of firepower to win.

The really good maneuver commanders I have served under expressed a clear and easily understandable intent and did not leave the planning or execution to their staffs without close involvement (not micro-management). Otherwise, separate plans would be developed, unrelated to the commander's intent, which would usually result in a disjointed, piecemeal, and unsynchronized execution of the battle plan. I have witnessed many such fiascos at both NTC and CMTC.

LTC Zanol's article focuses on the really important factors in a successful fire support

plan: mass, simplicity, focusing on targetable high payoff targets (HPT), flexibility, and timeliness. On numerous occasions during BCTP and BBS simulations, as well as NTC and CMTC rotations, I have seen fire support assets squandered by engaging too many unimportant targets. It is better to attack one critical HPT with everything available than to fritter away limited assets on unimportant targets. This requires close control of observers and maneuver commanders who clearly understand the commander's intent. There are not enough fire support assets to service every request. Someone is going to have to go without.

I also agree with his targeting criteria, that the target must be stationary. I have tried to engage moving targets with artillery at NTC and have never been successful with conventional munitions. There are just too many variables, including target location error, to be consistently successful. Moving targets should be engaged with artillery only when precision guided munitions are available.

Fire supporters of all branches and services are technicians by trade. Both the Field Artillery and Military Intelligence are highly technical. Successful integration of fire support depends on the tactical application of technical means. Maneuver commanders must train fire supporters to be both tacticians and intelligence analysts in order to engage the truly critical HPTs.

I would recommend that all maneuver and fire support soldiers copy LTC Zanol's article and read it daily. It summarizes every important fire support principle in the FM 6-20 series (*Fire Support in the AirLand Battle*) in just a few pages. I really don't think anyone could improve upon it.

SFC SCOTT E. ROGERS
Squadron FSNCO
1st Sqdn, 3d ACR

Working Rules of Engagement Into Future Training Scenarios

Dear Sir:

CPT Dan Froehlich has made a significant contribution to the Armor community in his article "Training Rules of Engagement: Beyond the Briefings," published in the September-October 1998 issue of *ARMOR*. Rules of engagement (ROE) are all too often viewed as hindering mission accomplishment, and at least part of the reason is our failure to achieve an appropriate comfort level with ROE during training. R-A-M-P, as described in CPT Froehlich's article, is an exceptional tool to teach ROE to soldiers and their leaders **now**, before they get caught up in the heat of the moment. The alternative to effective training is increased potential for allegations that force was used in violation of ROE or, fully as important, that the mission was compromised because legitimate force **wasn't** applied.

R-A-M-P is not a replacement for well-drafted ROE, which must be tailored for particular missions and be consistent with directives from higher headquarters. Rather, by ensuring soldiers understand fundamental rules governing the use of force, R-A-M-P provides a predicate for specific ROE. Moreover, R-A-M-P is easily incorporated into unit STX training and classroom training at all levels. The Center for Army Lessons Learned recently published several booklets containing ROE vignettes useful for both field and classroom training. Judge Advocate instructors at the Armor School presently use these vignettes, R-A-M-P, and specific ROE from actual deployments in Law of War classes for junior officers. Operational law Judge Advocates are available to help TOE units organize similar training.

In 1999, the U.S. Army Armor Center will open an innovative training site for Mounted Operations in Urban Terrain (MOUT). Training scenarios at the site will prepare mounted warriors and combat support elements for both domestic and foreign contingency operations. Familiarity with ROE is critical for units preparing for MOUT training and, ultimately, real world contingency operations. R-A-M-P is ideally suited for this purpose and CPT Froehlich's article underscores this important proposition.

JOHN E. BAKER
COL, U.S. Army
Staff Judge Advocate
Ft. Knox, Ky.

Training at Platoon, Company Level Must Be Real, and Realistic

Dear Sir:

I could not agree more with COL Guy Swan's letter (*ARMOR*, Jul-Aug 98) reference training in today's Army. I concur with COL Swan's assessment that most units training at our CTC's fail to execute at the icon level. In fact, there may not even be a linkage between the division warfighter and the missions executed at the CTC.

While I do not suggest another study, I do think it is time for all of us to re-look how we are approaching training. I think this is especially true for those of us who are more senior in rank. Personally, I think the training doctrine is fine. I suggest that how we are executing that doctrine may be a problem.

While all training is important, we must ensure that we are producing units at the platoon and company level that are capable of winning engagements. I think most of our battalion and brigade commanders can look at platoons and companies and determine if that training is meeting the requirements to win those engagements. You get better the more times you repeat specific training events provided you get good feedback on what went right and what went wrong (the AAR process).

COL Swan's command got better with each execution of a training event and his platoons and companies have more training events per year than any unit in our Army.

It is time that we put as much effort and time into platoon and company training as we do for the division and corps warfighters. We should protect the training time for these units with the same zeal that we protect the division and corps training events. We should insist that battalion and brigade commanders be at platoon and company training events versus meetings at division and corps headquarters. Senior leaders at all levels should encourage commanders to send their executive officers to meetings so they can observe training and coach and mentor their subordinates in critical warfighting skills.

I hear a lot of complaints about lack of maneuver space. What post does not have space to maneuver a platoon or a company? Use the simulations to enhance our ability to fight our larger formations but not at the expense of where the real fighting is accomplished.

Finally, I think most of our young leaders and soldiers love soldiering in the field when they are fully engaged and can see the actual benefits of their work. They appreciate the commander and command sergeant major that knows his profession well enough to point out better, more effective ways for them to employ their unit to achieve success. These soldiers stay because this is what they joined to do, not pucker some icon in the simcenter.

JAMES E. SIMMONS
COL, AV

Officer Turnover Makes Leaders Appear To Be "Transients" To Men in Their Units

Dear Sir:

Yes, COHORT CAN work IF personnel management policies support it. But, if COHORT exists in only one place, such as the 7th ID(L) or a unit preparing to go to Bosnia, hiccups are bound to appear elsewhere throughout the Army. Current personnel policies (individual replacements) and COHORT are antagonistic. They can't co-exist very well, if at all. The problem is not *too few* officers and NCOs but *too many* officers that have to get their platoon or command time before moving on to the next job. For COHORT to truly work and create cohesive, highly effective units, officers have to be stabilized within those units. We would have to fill units with officers, NCOs, and soldiers, and then keep them together for an entire life-cycle (3 yrs). That would mean that some officers won't "get their chance." We would have professional staff officers who would never get into a platoon leader or command billet unless they eventually prove themselves worthy. That would require battalion and brigade commanders to make the hard call about who is

going to get the platoon leader or command position and who is not. Under the present system, everyone gets their turn! What is best for the unit, is not best for the individual.

COHORT works and creates extremely effective units *if* it has good officer and NCO leadership that understands the unique challenges and stresses of this type of unit. (See Dr. Kirkland's Walter Reed Army Institute of Research (WRAIR) Tech. Report No. 5, Unit Manning System Field Evaluation, dated 17 June 1987.) The report cites "the deleterious effects on cohesion of rotating key company level leaders." The current officer personnel management system requires that company-level commanders change every 15-18 months (in many cases even sooner) in order to give every captain his turn. I was a battalion S3 in the 82d Abn Div Arty and saw battery commanders change frequently. I even had to change out after 12 months although I was getting good at my job. If the unit is lucky, it gets a good commander for the next 18 months. If not, they have to wait 18 months until they can get rid of the guy. The NCOs (esp. in the 82d) tend to stay in the same unit for several years. That's stability. The soldiers stay, as well. Officers are the wild card. That does nothing to enhance unit stability and cohesion (or combat effectiveness).

The first light infantry division "entailed significant changes from traditional practices in the U.S. Army." Rather than relying on logistical superiority and overwhelming an enemy through attrition, the light infantry division had to be able to deploy to an austere contingency area and win through "soldier power," the military proficiency of small groups of lightly armed soldiers. The limitations on airlift wouldn't support a massive buildup of logistics or combat power. This concept is not new; the airborne fought through Normandy during WWII like this. The report defines "soldier power" as the "synergistic product of intensive, progressive training rigorously focused on the combat mission, experienced leadership, and horizontal and vertical cohesion." It goes on to say that, "the COHORT system makes possible the development of interpersonal cohesion essential to small forces operating independently in hostile environments." Staying together as a unit for three years makes this possible.

The CSA published a White Paper on Leadership in 1985 (following the White Paper on Light Infantry Divisions in 1984) that proposed relationships between leaders and subordinates based on mutual trust, respect, affection, and dedication to a common purpose. The principles call for open, complete, and truthful communication both up and down the chain of command. The CSA recommends that leaders empower their subordinates by granting them discretion commensurate with their competence, involving them in decision-making, and relying on the ability to function autonomously within the boundaries of their missions. I have experienced this type of environment only once in my career, while assigned to the 7th ID(L). I tried to bring it to

the 82d Abn Div, with partial success, when I was assigned there as an S3.

The closest we came to institutionalizing a unit manning concept was General "Shy" Meyer's recommendation that we adopt a regimental system similar to the British system. What we have now is only a shadow of what he really intended. His concept was that officers and NCOs would remain with the same regiment for their entire careers and would not be forced to move up or out. Rather, they could remain at their current grade so long as they remained competent. The idea emphasized stability and cohesion, something we currently lack.

The current officer personnel management system emphasizes the officer's career development through narrowly defined "wickets," rather than unit cohesion or effectiveness. Unfortunately, these personnel policies undermine combat readiness. Kirkland's 1987 Tech Report states, "the most destructive behavior occurred when an officer was viewed as trying to further personal ambitions at the expense of the soldiers ... Rapid turnover of lieutenants as platoon leaders made both officers and their troops feel that the lieutenant was not part of the platoon, but a transient." This unit replacement policy is reminiscent of personnel policies in place during the Vietnam War in which many officers were viewed in the same manner by their troops. Kirkland writes, "the perception most damaging to vertical cohesion was that officers' careers mattered more to them than did the welfare of the unit." Haven't we learned something since our experience in Vietnam? We're still managing personnel piecemeal, rather than as units!

Kirkland's Tech Report didn't just focus on what went wrong in the COHORT system but found many examples of units that "got it right." He and his co-authors give many suggestions about what ingredients were common to high-performance units. These ingredients included technical and tactical knowledge, respect for subordinates, trust in subordinates, a power-down style of leadership, caring and a focus on the mission (setting clear priorities and shielding soldiers from higher HQ requirements that weren't mission-essential). "Constructive commanders used their staffs to fight higher headquarters to get personnel and equipment, shortstop requirements, and alleviate their subordinates' anxieties."

Kirkland makes an indictment of the prevailing Army culture. "It was clear from the experiences of these light infantrymen and artillerymen that the current Army culture does not support vertical cohesion or the capability to operate autonomously. Rather, the Army culture teaches leaders that the appropriate reaction to pressure is to centralize control, put on a good show, and sweat the troops (remember the quote "treat them like animals?"). This is not because leaders are weak or evil; it is because they have been raised in an Army culture in which the prime assumptions are that no one will do his best unless he

is pressured and closely checked, that being good is meaningless unless you look good, and if you look good no one will check further, and that I won't be here when the facade I have created crumbles." The implications of this statement, if true, are enormous for readiness and deployability issues.

The writer states that he has not read any systematic study of the COHORT system on a service-wide basis. I encourage him to read the WRAIR studies on the light infantry division and the COHORT system. They conducted extensive observational research and conducted numerous interviews over a multi-year period to come to the conclusions I referred to above. He might also read the two CSA White Papers referenced in this essay.

These issues are critical to our Army. With battalion command being the Holy Grail of career success, most officers are risk-averse and want to avoid doing anything that would jeopardize their next rating. This type of climate does nothing to encourage risk-taking, empowering subordinates, or building the most combat-effective units. The fruits of a power-down leadership style take too long to realize for most. They are not immediate, and when a single OER can make the difference whether you will make the battalion command list or not, most officers simply won't risk it. Our Army culture punishes risk-takers. It doesn't allow mistakes. (If you can't make mistakes, how can you learn?) It actually works against creating the most combat-effective units! Doesn't this tell you that something is wrong?

Another writer responded to my piece yesterday by stating that the resiliency of the enlisted soldiers of our Army keeps it strong. He's right. But I think it is a shame that they have to be resilient to negative internal pressures that we could eliminate by overhauling our officer personnel management policies.

I hope the Army's bold experiment of the 1980s, the light infantry division and the COHORT unit manning system, are not left on the dust pile of history. I fear we are returning to a system that was in place during Vietnam and failed us then.

WILLIAM F. ADAMS
LTC, FA
PMS, Duke University

Further Comment Clarifies Soviet and Russian Radio Bands

Dear Sir:

I saw the comments about Adam Geibel's article in the new issue of *ARMOR* and noted that the major made a slight error in his comments on radio types. In Russian, they use the abbreviations "KV" and "UKV" for military band radios. KV is "Korotkiye Volny" or short wave, which to them is what we term HF — usually 1-11 MHz on their radios, like the old R-130 series. UKV is "Ul'trakorotkiye Volny" or "Ultra-short Wave" which corresponds to our VHF. The radios here are either from 20-51.5 MHz or 30-80. The R-163-xxK series are HF ra-

dios; the R-163-U series are mostly in the 30,000-79,990 MHz range, and the R-163-50U is one of those. It replaced the R-171 and R-111 series radios as a 50-watt command set. The R-163-10U is the normal set, and the R-163-UP is just a receiver, as the major noted.

STEPHEN "COOKIE" SEWELL
CW2 (Ret.)

Seeking 33rd Armor Members For Historic Registry

Dear Sir:

Could you mention our efforts to document the history of the 33rd Armor Regiment and its members, from its inception in 1941 through its many changes in the mid-1980s and 1990s? We ask anyone who served in any battalion of the 33rd Armor Regiment to contact us so that we may add them to our registry.

We are also establishing a new website at <http://www.readyfirst.com/2-33Armor/>

BRYAN SMITHERS
HHC 2-33, 1st Bde., 3d AD
1976-1979

Use Sandbags to Protect Vehicles When Strapping On Claymore Mines

Dear Sir:

As always, I thoroughly enjoy your magazine. I have one comment about SFC Thompson's excellent article in the July/August issue. On page 13, he says "Another similar technique was strapping Claymore mines to the outside armor of the tank with the clackers marked as to position inside the driver's compartment."

This may damage the host vehicle, particularly a thinner-skinned vehicle such as a Bradley, M113, or truck. In every case, the M18 should be placed against a filled sandbag and not directly against the hull. When Claymores were detonated against the sides of vehicles during the Vietnam War, it caused "excessive" damage to the host. To decrease the damage, a miniature Claymore (sometimes called a "dirk," "mini-more," or a "Claymorette") was developed by the Limited War Laboratory at Aberdeen Proving Ground. Even with the miniature Claymore, the host vehicle still suffered "significant" damage. (See *Claymore Mines, Their History and Development*, by Larry Grupp, page 123.)

Another technology, developed by FMC Defense Technology Laboratories, used a less destructive, slow-firing counter-ambush device that could be placed in multiple units on the sides of the vehicle. This device was made up of many rows and columns of short, aluminum barrels, each holding a .22-cal. Long Rifle cartridge. The back surface was a propellant sheet that burned and caused the cook-off of the .22s over about a minute duration, sounding like popcorn. It was intended to keep enemy heads down long enough to allow our

personnel to take action. (Draft TM 9-1095-254-14, *Operator, Organizational, Direct Support, and General Support Maintenance Manual (Including Repair Parts and Special Tools List) for Counter Ambush Barrage Weapon System XM55*, Frankford Arsenal, September 1970.) The Rhodesians also improvised a number of interesting counter-ambush devices (See *Taming the Landmine*, by Peter Stiff, pages 79-83. A "Minimore" was commercially available as recently as 1987).

MAJOR WILLIAM SCHNECK
Assistant Division Engineer
29th ID
Wschneck@nvl.army.mil

Letters Reflect Real Concerns About Simulations Versus Reality

Dear Sir:

I was perturbed by your views in "Stand To" in the July-August issue of *ARMOR*.

Specifically, your belief that the present flow of letters to the editor, "indicate that there is much more going on than worried, paralysis-inducing, woe-is-us hand-wringing..." "who are sounding Chicken Little, sky-is-falling alarms..." and "that behavior is counter-productive and only spreads panic when panic is in no way warranted."

On the contrary, rather than a sense of panic, you might interpret the increased number of letters to the editor as a strong indication of the increasing concerns of both active and retired officers and NCOs to the *dangerous trends* that they perceive in their U.S. Army and their Armor Branch, trends that if continued could lead to an ineffective army incapable of performing its national defense missions.

Consider COL Swan's recent letter (Jul-Aug '98) in which he states his concerns over "the funding and development priorities weighted heavily toward virtual and constructive simulations and away from live, FTX-based training. These computer-driven simulations will dominate the so-called "second training revolution."

From my perspective, based on 31 years of service, with command experience from platoon-company-battalion-brigade; wartime experience in Korea and Vietnam; and training experience in the U.S., Europe, Asia, and the Middle East, I strongly endorse COL Swan's concerns. I believe the U.S. Army should give live, FTX-based training first priority in funding and allocate only small funding for research and development for computer-driven training simulations.

It should be recognized that live FTX-based training serves important requirements — the testing of tactical doctrine in the harsh realities of field operations, the testing of weapons and equipment, and finally the testing of leaders.

DUQUESNE A. WOLF
COL, U.S. Army (Ret.)